

1 What is claimed is:

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3 1. A method of data sharing and linkage between Internet Protocol (IP)  
4 telephony Internet-accessible devices, comprising:

5  
6 a first user of a first Internet-accessible device initiating a data transfer over a  
7 first communications link between the first Internet-accessible device,  
8 coupled to a first telephony device and usable by the first user, and a second  
9 Internet-accessible device, coupled to a second telephony device and usable  
10 by a second user;

11  
12 establishing a second communications link between a first transmit/receive  
13 device of the first telephony device and a second transmit/receive device of  
14 the second telephony device; and

15  
16 exchanging a plurality of data packets between the first and second Internet-  
17 accessible devices via the second communications link.

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19 2. The method of claim 1, prior to the first user of the first Internet-  
20 accessible device initiating the data transfer, further comprising:

21  
22 the first user enabling a first link feature of the first Internet-accessible device  
23 and the second user enabling a second link feature of the second Internet-  
24 accessible device.

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26 3. The method of claim 1, wherein at least one of the first and second  
27 Internet-accessible devices is a set-top box.

1 4. The method of claim 1, wherein the telephony system is a telephone.

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3 5. The method of claim 1, wherein the first communications link is a  
4 telephone link via the Internet.

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6 6. The method of claim 1, wherein the first communications link and the  
7 second communications link are the same.

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9 7. The method of claim 1, wherein at least one of the transmit/receive  
10 devices are able to send and receive voice and data information  
11 simultaneously.

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13 8. The method of claim 7, wherein establishing the first communications  
14 link between the first transmit/receive device of the first telephony device and  
15 the second transmit/receive device of the second telephony device comprises:

16  
17 the first transmit/receive device switching into an analog circuit of the first  
18 telephony device and sending a synchronization sequence for receipt by the  
19 second transmit/receive device of the second telephony device; and

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21 the second telephony device detecting the synchronization sequence, muting  
22 a handset of the second telephony device, and coupling a plurality of  
23 telephone signals of the second telephony device to the second  
24 transmit/receive device of the second telephony device.

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26 9. The method of claim 8, wherein at least one of the first and the second  
27 telephony devices are telephones.

1 10. The method of claim 1, wherein a format and a content of the plurality  
2 of data packets are defined by one or more applications running at one or  
3 more of the first and second Internet-accessible devices.

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5 11. The method of claim 1, wherein during an exchange of the plurality of  
6 data packets between the first and second Internet-accessible devices, further  
7 comprising:

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9 communicating a message that the exchange of the plurality of data packets  
10 is in progress to the first and second users on the first and second Internet-  
11 accessible devices.

12  
13 12. A method for establishing a data link between users of set-top boxes  
14 and sharing data through the data link, comprising:

15  
16 establishing contact between the users of a plurality of set-top boxes through  
17 a first transmission media;

18  
19 initiating a data transfer between the plurality of set-top boxes using a second  
20 transmission media;

21  
22 exchanging identification information between the plurality of set-top boxes  
23 using a third transmission media;

24  
25 using the identification information to establish a data link between the  
26 plurality of set-top boxes using a fourth transmission media;

27  
28 exchanging a plurality of data packets between the plurality of set-top boxes  
29 over the data link; and

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maintaining current identification information between the plurality of set-top boxes to allow the data link to be continuously accessible by the plurality of set-top boxes.

13. The method of claim 12, wherein the first transmission media includes a plurality of telephony devices coupled to the set-top boxes.

14. The method of claim 13, wherein one or more of the telephony devices of the first transmission media is a telephone coupled to a set-top box of the plurality of set-top boxes.

15. The method of claim 13, wherein a first telephony device of the plurality of telephony devices coupled to a first set-top box is able to communicate with the plurality of telephony devices coupled to the plurality of set-top boxes using a Public Switched Telephone Network contained within the first transmission media.

16. The method of claim 15, wherein the first telephony device is a telephone.

17. The method of claim 13, wherein a first telephony device coupled to a first set-top box is operable to communicate with the plurality of telephony devices coupled to the plurality of set-top boxes using the Internet.

18. The method of claim 12, wherein the second transmission media is the first transmission media.

1 19. The method of claim 12, wherein the third transmission media is the  
2 second transmission media.

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4 20. The method of claim 12, wherein the second and the third transmission  
5 medium are the first transmission media.

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7 21. The method of claim 12, wherein the second, third and fourth  
8 transmission medium are the first transmission media.

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10 22. The method of claim 12, wherein the second transmission media is the  
11 Internet.

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13 23. The method of claim 12, wherein the second transmission media is a  
14 Public Switched Telephone Network.

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16 24. The method of claim 13, wherein the plurality of telephony devices is a  
17 plurality of telephones.

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19 25. The method of claim 12, wherein at least one of the plurality of set-top  
20 boxes contains a transmit/receive device for the transmission and reception of  
21 the plurality of data packets.

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23 26. The method of claim 25, wherein establishing contact between the  
24 users of a plurality of set-top boxes through a first transmission media  
25 comprises establishing a communication link between a first transmit/receive  
26 device of a first set-top box and a second transmit/receive device of a second  
27 set-top box, further comprising:

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1 the first transmit/receive device switching into an analog circuit of the first  
2 telephony device and sending a synchronization sequence for receipt by the  
3 second transmit/receive device of the second telephony device; and

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5 the second telephony device detecting the synchronization sequence, muting  
6 a handset of the second telephony device, and coupling a plurality of  
7 telephone signals of the second telephony device to the second  
8 transmit/receive device of the second telephony device.

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10 27. The method of claim 12, wherein the data transfer initiated by a first  
11 user of the users of the plurality of set-top boxes occupies the first  
12 transmission media used to establish contact between the plurality of users,  
13 thereby temporarily halting a voice communication between the first user and  
14 the plurality of users.

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16 28. The method of claim 12, wherein an amount and a type of identification  
17 information exchanged varies depending upon a security policy defined for the  
18 users of the plurality of set-top boxes.

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20 29. The method of claim 12, wherein the identification information  
21 exchanged includes acknowledgement information.

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23 30. The method of claim 12, wherein establishing the data link includes  
24 exchanging acknowledgement information between the plurality of set-top  
25 boxes.

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27 31. The method of claim 12, wherein the data transmitted after establishing  
28 the data link includes a plurality of voice packets, thereby bypassing a public  
29 switched telephone network.

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32. The method of claim 12, wherein the data transmitted after the establishment of the data link over the data link includes one or more of Internet Protocol addresses, Media Access Control (MAC) addresses, e-mail addresses, mailing addresses, television viewing preferences, television viewing history, photographic archives, personal or family activity schedules, address books, websites, audio files, video files, and travel itineraries.

33. The method of claim 12, wherein each set-top box of the plurality of set-top boxes transmits notification of a change in its data link availability to the plurality of set-top boxes to enable the plurality of set-top boxes to access the data link between said plurality of set-top boxes.

34. A system for the initiation, establishment and maintenance of a data link between a plurality of Internet-accessible devices, comprising:

- a plurality of telephony devices suitable for voice grade communications;
- a plurality of Internet-accessible devices each having a first interface to the plurality of telephony devices and a second interface to a corresponding plurality of transmission media;
- a first Internet-accessible device of the plurality of Internet-accessible devices having the first interface to a first telephony device of the plurality of telephony devices and the second interface to the plurality of transmission media; and
- a plurality of transmission paths linking the plurality of Internet-accessible devices to the plurality of telephony devices.

1 35. The structure of claim 34, wherein one or more Internet-accessible  
2 devices of the plurality of Internet-accessible devices is a set-top box.

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4 36. The system of claim 34, wherein the first telephony device is a  
5 telephone.

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7 37. The system of claim 34, wherein the first Internet-accessible device is  
8 operable for data communication as well as voice communication.

9  
10 38. The system of claim 34, wherein the plurality of transmission paths  
11 includes one or more of an Internet, a Public Switched Telephone Network, a  
12 microwave communication system, an optical communication system, a cable  
13 communication system, and a radio-frequency communication system.

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15 39. The structure of claim 35, wherein a transmission path of the plurality  
16 of transmission paths includes a first cable headend coupled to a first  
17 input/output terminal of the first set-top box, and a second cable headend  
18 coupled to a plurality of input/output terminals of the plurality of set-top boxes.

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20 40. The structure of claim 39, wherein the first and second cable headends  
21 are the same.

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23 41. The structure of claim 39, wherein a transmission path of the plurality  
24 of transmission paths includes an Internet coupled to a first input/output  
25 terminal of the first cable headend and coupled to a first input/output terminal  
26 of the second cable headend.

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28 42. The system of claim 39, wherein a transmission path of the plurality of  
29 transmission paths includes a public switched telephone system coupled to a



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| 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 | 2035 | 2036 | 2037 | 2038 | 2039 | 2040 | 2041 | 2042 | 2043 | 2044 | 2045 | 2046 | 2047 | 2048 | 2049 | 2050 | 2051 | 2052 | 2053 | 2054 | 2055 | 2056 | 2057 | 2058 | 2059 | 2060 | 2061 | 2062 | 2063 | 2064 | 2065 | 2066 | 2067 | 2068 | 2069 | 2070 | 2071 | 2072 | 2073 | 2074 | 2075 | 2076 | 2077 | 2078 | 2079 | 2080 | 2081 | 2082 | 2083 | 2084 | 2085 | 2086 | 2087 | 2088 | 2089 | 2090 | 2091 | 2092 | 2093 | 2094 | 2095 | 2096 | 2097 | 2098 | 2099 | 2100 | 2101 | 2102 | 2103 | 2104 | 2105 | 2106 | 2107 | 2108 | 2109 | 2110 | 2111 | 2112 | 2113 | 2114 | 2115 | 2116 | 2117 | 2118 | 2119 | 2120 | 2121 | 2122 | 2123 | 2124 | 2125 | 2126 | 2127 | 2128 | 2129 | 2130 | 2131 | 2132 | 2133 | 2134 | 2135 | 2136 | 2137 | 2138 | 2139 | 2140 | 2141 | 2142 | 2143 | 2144 | 2145 | 2146 | 2147 | 2148 | 2149 | 2150 | 2151 | 2152 | 2153 | 2154 | 2155 | 2156 | 2157 | 2158 | 2159 | 2160 | 2161 | 2162 | 2163 | 2164 | 2165 | 2166 | 2167 | 2168 | 2169 | 2170 | 2171 | 2172 | 2173 | 2174 | 2175 | 2176 | 2177 | 2178 | 2179 | 2180 | 2181 | 2182 | 2183 | 2184 | 2185 | 2186 | 2187 | 2188 | 2189 | 2190 | 2191 | 2192 | 2193 | 2194 | 2195 | 2196 | 2197 | 2198 | 2199 | 2200 | 2201 | 2202 | 2203 | 2204 | 2205 | 2206 | 2207 | 2208 | 2209 | 2210 | 2211 | 2212 | 2213 | 2214 | 2215 | 2216 | 2217 | 2218 | 2219 | 2220 | 2221 | 2222 | 2223 | 2224 | 2225 | 2226 | 2227 | 2228 | 2229 | 2230 | 2231 | 2232 | 2233 | 2234 | 2235 | 2236 | 2237 | 2238 | 2239 | 2240 | 2241 | 2242 | 2243 | 2244 | 2245 | 2246 | 2247 | 2248 | 2249 | 2250 | 2251 | 2252 | 2253 | 2254 | 2255 | 2256 | 2257 | 2258 | 2259 | 2260 | 2261 | 2262 | 2263 | 2264 | 2265 | 2266 | 2267 | 2268 | 2269 | 2270 | 2271 | 2272 | 2273 | 2274 | 2275 | 2276 | 2277 | 2278 | 2279 | 2280 | 2281 | 2282 | 2283 | 2284 | 2285 | 2286 | 2287 | 2288 | 2289 | 2290 | 2291 | 2292 | 2293 | 2294 | 2295 | 2296 | 2297 | 2298 | 2299 | 2300 | 2301 | 2302 | 2303 | 2304 | 2305 | 2306 | 2307 | 2308 | 2309 | 2310 | 2311 | 2312 | 2313 | 2314 | 2315 | 2316 | 2317 | 2318 | 2319 | 2320 | 2321 | 2322 | 2323 | 2324 | 2325 | 2326 | 2327 | 2328 | 2329 | 2330 | 2331 | 2332 | 2333 | 2334 | 2335 | 2336 | 2337 | 2338 | 2339 | 2340 | 2341 | 2342 | 2343 | 2344 | 2345 | 2346 | 2347 | 2348 | 2349 | 2350 | 2351 | 2352 | 2353 | 2354 | 2355 | 2356 | 2357 | 2358 | 2359 | 2360 | 2361 | 2362 | 2363 | 2364 | 2365 | 2366 | 2367 | 2368 | 2369 | 2370 | 2371 | 2372 | 2373 | 2374 | 2375 | 2376 | 2377 | 2378 | 2379 | 2380 | 2381 | 2382 | 2383 | 2384 | 2385</ |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|--------|